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COTTON GINNING INDUSTRY TRENDS IN THE UNITED STATES

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The development of the saw-type cotton gin resulted in a dramatic increase in cotton production in the United States and thus the ginning industry. In the 1800's and early 1900's, refinements in the gin stand and additional equipment for cleaning, conveying and packaging began to replace plantation gins with large commercial installations. Since about 1915, the cotton ginning industry has been consolidating - small gins are going out of business or increasing capacity to become cost competitive. As harvesting practices changed from hand to machine, the need for additional seed cotton cleaning and drying equipment at the gins add to the ginning process. Notable trends in the cotton ginning industry include: the number and capacity of gins; bale size and storage; seed cotton handling systems; cottonseed storage and usage; and environmental regulations and safety.

Gin Consolidation and Capacity

A total of 16.7 million bales of cotton were ginned during the 2002 season, using 921 operating gins. The average volume per gin was 18,143 bales, (Table 1). This is 15% below the 2001 cotton crop, which was the largest crop recorded with approximately 19.7 million bales ginned by 970 gins with an average volume of 20,364 bales. In contrast, 4,218 gins operated in 1968, to process 10.9 million bales. As cotton acreage shifted from the more traditional production regions, larger gins servicing a broader area began to emerge. Although the number continues to drop each year, the rate of decrease has slowed dramatically.

The five-year U.S. average annual cotton production increased from 11.6 million bales in 1968, to about 16.7 million bales in 2002. At the same time, the average annual volume per gin has increased from 2,588 bales to about 18,000 bales ginned annually. The numbers of gins with volumes greater than 40,000 bales per year has increased to 97 locations across the United States. The Southeastern gin numbers grew dramatically over the past 20 years and has now begun to stabilize. Consolidation will continue to reduce the number of gins and expand the capacity at each gin.

Bale Size and Storage

Bale size and density is an important concern to the textile mills and in recent years most have indicated that they will no longer purchase non-gin UD bales. This has eliminated the need for recompressed bales and forced older gins to install UD bale presses, making flat bales obsolete. The percentage of the crop which was pressed and packaged in UD bales at the gin increased from less than 40 percent in 1980, to about 100 percent in (Table 1). The trend toward gin consolidation has fueled this change, but economic incentives from warehouses have also encouraged the transition to gin UD bales.

As individual gins process more bales, the trend toward bale warehousing at gins is increasing and from all indication, they seem to be profitable. This trend has allowed larger gins to deliver the quality and quantity of cotton directly to the textile mills.

Moduling Seed Cotton

The module system of handling and storing seed cotton has impacted ginning more than any development in several decades. First introduced in 1972, the system was used on about 92 percent of the 2000 crop (Table 1). The module system decouples the harvesting and ginning operations by providing in

field storage of seed cotton that is protected from weathering. This system allows for harvesting at optimum fiber quality conditions without delays waiting for trailers to dump the harvesters. The module system has also helped to extend the ginning season, especially for dryer production regions where modules can safety be stored without loss of fiber quality. The module provides some protection to fiber quality, if properly stored. Care must be taken in more humid areas not to extend the storage any longer than possible. High moisture conditions will cause loss of fiber quality during extended storage periods in modules.

Cottonseed Storage and Usage

Another trend is long-term cottonseed storage at gins. No official estimates are available, but many well-managed gins have the capacity to store a significant percentage of their cottonseed. The continued development of the whole cottonseed feeding market is the basic reason for seed storage at gins, even though some gins store seed for crushing. The percentage of cottonseed that is fed directly to livestock has increased from about 13 percent in 1979, to an estimated 58 percent in 2001 (Table 1). As dairies become more efficient, they will need more highly concentrated super-charged feed, and cottonseed meets that requirement. Another factor that could slow or reverse the trend toward gins building seed storage facilities is the cottonseed oil mills' involvement in the whole seed market.

Environmental Regulation and Safety

All across the cotton belt, environmental regulations and safety are becoming more important to cotton gins. Most gins now operate with environmental controls. Voluntary compliance can soften the final impact, however, regulatory requirements are inevitable. Consequently, all gins should install and maintain cyclones on all high-pressure fans and appropriate collectors on low-pressure exhausts, maintain good relations with neighbors around the gin and treat regulatory officials with appropriate respect.

Cotton ginning is by its very nature, dangerous. Accident reports and workers compensation insurance rates document the severity. The most effective way to reduce accidents is to reduce common hazards in the plant and to establish an effective safety-training program for your gin. Gin associations have developed strong safety programs for their members in recent years that are having an important impact in reducing fatalities and injuries.

Summary

The five-year average annual cotton production in the United States has increased 46 percent since 1968, while the number of active gins has decreased 77 percent, causing dramatic increase in average annual ginning volume (Table 1). This extra volume has allowed gins to reduce or maintain their operating costs. Gin UD bales presses have been adopted by the ginning industry in support of the textile industry. Also, module usage increased from 51 to 92 percent and cottonseed used for feed increased from 35 to 57 percent of the crop. No gin should be expected to follow all of these trends. Whatever change you undertake, good management is required to be successful. Cotton ginning will become more of a challenge and even more important to the producer's income in the future. Good business management practices, as well as machinery operation procedures and adoption of new technology, will be critical. Ginners will need to be better trained to meet these demands.

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Table 1. Cotton Ginning Statistics – United States

Crop	Bales Ginned* (Thousands)	5 Yr. Avg. Bales Ginned (Thousands)	Active Gins*	Average Volume (Bale/Gin)	Average Charges ($/Bale)	Modules (Percent)	Gin UD Bales (Percent)	Cottonseed* For Feed (Percent)
67	7,439	12,634	4,203	1,770	18.60			
68	10,917	11,600	4,218	2,588	18.64			
69	9,937	10,588	3,942	2,521	19.15			
70	10,112	9,593	3,750	2,697	19.40			
71	10,229	9,727	3,623	2,823	20.33			
72	13,269	10,893	3,517	3,773	21.01			
73	12,611	11,232	3,285	3,839	23.74			
74	11,328	11,510	3,219	3,519	29.38	2		
75	8,151	11,118	2,856	2,854	32.13	2		
76	10,347	11,141	2,771	3,734	32.87	7		
77	14,018	11,291	2,689	5,213	34.73	13		8.4
78	10,549	10,879	2,461	4,286	36.16	18		5.8
79	14,262	11,465	2,336	6,105	39.31	26		12.7
80	10,826	12,000	2,254	4,803	43.77	32		16.6
81	15,150	12,961	2,189	6,921	42.90	37	43	19.9
82	11,526	12,463	2,000	5,763	43.46	36	45	26.2
83	7,504	11,854	1,852	4,052	45.87	42	47	18.2
84	12,545	11,510	1,860	6,745	45.64	36	50	22.4
85	13,000	11,945	1,774	7,328	44.86	39	62	33.8
86	9,438	10,803	1,662	5,679	44.91	45	70	34.0
87	14,359	11,369	1,653	8,687	45.82	51	70	35.2
88	14,985	12,865	1,645	9,109	45.14	53	85	35.9
89	11,884	12,733	1,583	7,507	44.26	51	88	29.3
90	15,065	13,146	1,533	9,827	43.68	57	85	35.8
91	17,058	14,670	1,500	11,372	42.50	63	89	41.0
92	15,789	14,956	1,389	11,367	42.50	67	90	37.5
93	15,691	15,097	1,364	11,504	43.28	74	94	41.8
94	19,122	16,545	1,306	14,642	42.37	78	98	41.0
95	16,932	16,918	1,275	13,280	na	81	99	45.0
96	18,189	17,145	1,157	15,721	na	85	99	45.0
97	18,301	17,647	1,153	15,873	na	88	99	40.5
98	13,534	17,216	1,109	12,204	na	90	99	49.7
99	16,528	16,697	1,084	15,247	na	na	99.9	55.1
00	16,742	16,659	1,018	16,446	na	92**	99.9	55.2
01	19,772	16,975	970	20,364	na	na	99.9	57.7
02	16,710	16,657	921	18,143	na	na	na	na

* Reported by USDA, NASS

** 2000 Ginners' Survey Results